

Method and equipment for the electrokinetic ultrafiltration of macromolecules

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Abstract of DE3626953

The invention relates to a method and equipment for the fractionation of mixtures of electrically charged macromolecules of different size from liquid mixtures, which permit, for example, the fractionation and enrichment of proteins from biological liquids. The object underlying the invention is to achieve the fractionation of electrically charged molecules with the aid of a combination of free electrophoresis and ultrafiltration, the number of fractions and the sizes of the molecules being intended to lead to a configuration of the equipment which is matched to the particular case. The essence of the invention is that an electrical direct current flows through a column of thermostatic chambers, which are separated from each other by ultrafiltration membranes, as a result of which the membranes become covered with the fractions. Reversing the polarity of the electrical field detaches the molecules from the membranes and the molecules can then be isolated from the chambers without problem. Possible applications of the invention are the preliminary fractionation of enzyme activities, the extraction of large amounts of protein for biotechnological purposes, the extraction of enzymes as therapeutic agents, etc.

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